

ABSTRACT

An interconnect for testing a semiconductor component includes a substrate, and interconnect contacts on the substrate configured to electrically engage component contacts on a semiconductor component. Each interconnect contact includes a compliant conductive layer formed as a conductive spring element. In addition, the compliant conductive layer includes a tip for engaging the component contact and a spring segment portion for resiliently supporting the tip. A method for fabricating the interconnect includes the steps of shaping the substrate, forming a conductive layer on a shaped portion of the substrate and removing at least some of the shaped portion. The shaped portion can comprise a raised step or dome, or a shaped recess in the substrate. The conductive layer can comprise a metal, a conductive polymer or a polymer tape can include a penetrating structure or penetrating particles. The interconnect can be used to construct wafer level test systems, and die level test systems as well, for semiconductor components such as wafers, dice and packages.